Journal of Science Education and Technology

Vol. 10, No. 1 **March 2001**

CONTENTS

Editorial Announcements 1
Karen C. Cohen

Giving Back to the Web: Social Filtering of World Wide Web Resources in High School Science 3
Nathan Bos

Procedures for Evaluating the Impact of Complex Educational Interventions 17
Richard L. Venezky

Amazing Space: Creating Educational Resources from Current Scientific Research Results from the Hubble Space Telescope 31
C. A. Christian, B. Eisenhamer, Jonathan Eisenhamer, and Terry Teays

MicroObservatory Net: A Network of Automated Remote Telescopes Dedicated to Educational Use 39
Philip M. Sadler, Roy R. Gould, P. Steven Leiker, Paul R. A. Antonucci, Robert Kimberk, Freeman S. Deutsch, Beth Hoffman, Mary Dussault, Adam Contos, Kenneth Brecher, and Linda French

Tutorial Learning for the New Century 57
Alfred Bork

A Hypermedia Environment to Explore and Negotiate Students' Conceptions: Animation of the Solution Process of Table Salt 73
Jazlin V. Ebenezer

Taxonomy of Scientifically Oriented Educational Websites 93
Rafi Nachmias and Inbal Tuvi

Journal of Science Education and Technology

Vol. 10, No. 2 **June 2001**

CONTENTS

Student Group Project Work: A Pioneering Experiment in Interactive Engagement 105
Jeffry V. Mallow

Gender Differences in Introductory Atmospheric and Oceanic Science Exams: Multiple Choice Versus Constructed Response Questions 115
Andrew J. Weaver and Helen Raptis

Radio Astronomy: A Strong Link Between Undergraduate Education and Research 127
Preethi Pratap and Joseph E. Salah

The Silent Revolution Continues 137
John Perlin

Comparing the Impacts of a Problem-Based Computer-Assisted Instruction and the Direct-Interactive Teaching Method on Student Science Achievement 147
Chun-Yen Chang

Education in the Light of Liberspace Evolution and Transition to Cyberspace 155
Valery V. Popov

Student Peer Teaching: An Innovative Approach to Instruction in Science and Engineering Education 165
Shri Ramaswamy, Ilene Harris, and Ulrike Tschirner

Assessing and Developing the Concept of Assumptions in Science Teachers 173
Din Yan Yip

Science and Mathematics Efficacy Beliefs Held By Practicing and Prospective Teachers: A 5-Year Perspective 181
George Wenner

A Cross-College Age Study of Science and Nonscience Students' Conceptions of Basic Astronomy Concepts in Preservice Training for High-School Teachers 189
Ricardo Trumper

Electromagnetic Concepts in Mathematical Representation of Physics 197
Virginie Albe, Patrice Venturini, and Jean Lascours

Response to Contradiction: Conflict Resolution Strategies Used by Students in Solving Problems of Chemical Equilibrium 205
Mansoor Niaz

Journal of Science Education and Technology

Vol. 10, No. 3 **September 2001**

CONTENTS

A Microcomputer-Based Contribution to Scientific and Technological Literacy 213
Ricardo Trumper and Moshe Gelbman

Enhancing Teachers' Use of Technology Through Professional Development on Electronic Concept Mapping 223
James A. Rye

Does Physics Teaching Affect Gender-Based Science Anxiety? 237
M.K. Udo, G.P. Ramsey, S. Reynolds-Alpert, and J.V. Mallow

School Chemistry Vs. Chemistry in Research: An Exploratory Experiment 249
Clarisse L. Habraken, Wim Buijs, Hens Borkent, Willy Ligeon, Harry Wender, and Marijn Meijer

Do No Harm—A Comparison of the Effects of On-Line Vs. Traditional Delivery Media on a Science Course 257
Regina Schoenfeld-Tacher, Sherry McConnell, and Michele Graham

Teaching Science to Academically Underprepared Students 267
Godwin E. Mbamalu

Factors in Decisions of Underrepresented Minorities to Forego Science and Engineering Doctoral Study: A Pilot Study 273
Marian E. Brazziel and William F. Brazziel

Journal of Science Education and Technology

Vol. 10, No. 4 **December 2001**

CONTENTS

Learning Difficult Content Using the Web: Strategies Make a Difference 283
David W. Brooks and Kent J. Crippen

Helping Your Local Amphibians (HYLA): An Internet-Based Amphibian Course for Educators 287
Tony P. Murphy

Current State of Web Sites in Science Education – Focus on Atomic Structure 293
Inbal Tuvi and Rafi Nachmias

Differential Effects of a Multimedia Goal-Based Scenario to Teach Introductory Biochemistry—Who Benefits Most? 305
Regina Schoenfeld-Tacher, Loretta L. Jones, and Kay A. Persichitte

Cognitive Comparisons of Students' Systems Modeling in Ecology 319
Kathleen Hogan and David Thomas

Computer Applications in Balancing Chemical Equations 347
David D. Kumar

Content Evaluation of an Environmental Science Field Trip 351
Doug Knapp and Elizabeth Barrie

How Pendulum Studies Can Promote Knowledge of the Nature of Science 359
Michael R. Matthews

Technology Programs . . . for All or for Some? 369
Susan P. Giancola